

Lecture Presentations Combined with Comic Story-Telling to Increase the Knowledge and Understanding of Elementary and Junior High School Students about Drugs Concerning Self-Medication Behavior

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Abstract. Self-medication practice can result in medication errors due to limited public knowledge of pharmaceutical medicine, especially among school-aged adolescents, who are prohibited from doing self-medication. This study aimed to evaluate the students' knowledge and understanding of pharmaceutical medicine, pharmacists, and self-medication, and also the awareness to be wise and smart in responding to the use of pharmaceutical products for maintaining public health. The study was carried out by conducting the lecture on drugs and self-medication through a classical presentation and comic story to students of SDN Keputih 245 Elementary School and SMPN 19 Junior High School, Surabaya. Moreover, DAGUSIBU dance was also practiced. The students actively engaged in the class during the presentation. The results of the pre-and post-test evaluations showed that this lecture method had succeeded in increasing junior high school students' knowledge about medicine and DAGUSIBU. On the other hand, the pre-test scores of Elementary School students were better than the post-test, except for new knowledge related to the drug logo and classification. It suggests that the delivery methods were inappropriate for elementary school students. It can be concluded that school-age adolescents, especially in elementary and junior high schools, need assistance during self-medication. This community service activity by a presentation and comic telling methods successfully improved the knowledge of SMPN 19 Junior High School about drugs and DAGUSIBU; however, it needs a more straightforward explanation with attractive learning methods for delivering a lecture to Elementary School students.

Keywords: Pharmacist, Public Health, Education, School-Age Adolescents, DAGUSIBU, Self-Medication

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1. Introduction

Health is a complete and intact physical, mental, and social condition [1][2] which this healthy condition allows for a socially and economically productive life [3]. Health development as one of the national development efforts is directed at achieving awareness, willingness, and ability to live a healthy life for every resident to realize an optimal degree of public health. Efforts to improve health cannot be carried out by one party alone. Following the vision of the Ministry of Health, to form an independent community for a healthy life and to achieve optimal health status for the community, it is necessary to carry out health efforts. Health efforts include disease prevention (preventive action), health improvement (promotive action), disease treatment (curative), and health recovery (rehabilitative action), which are

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carried out in a comprehensive, integrated and sustainable manner and are jointly held between the government and the community [3][4].

Self-medication is an effort to select and use drugs or health products by individuals to treat the disease or symptoms they are experiencing or to continue prescription drugs for the treatment of chronic diseases or symptoms of disease [5]. Self-medication is an alternative that is taken by the community to increase the affordability of treatment [6]. Self-medication is also one of the efforts to achieve health. Self-medication is usually carried out for quick and effective handling of health complaints that do not require medical consultation, reducing the burden of health services on limited resources and personnel, and increasing the affordability of health services for people who are far from public health centers. Self-medication is mainly done to overcome complaints and minor ailments that many people experience, such as fever, pain, dizziness, cough, influenza, stomach ulcers, worms, diarrhea, skin diseases, and others [7][8]. The declaration of the “Gerakan Masyarakat Cerdas Menggunakan Obat/ Smart Society Using Drugs Movement” (GeMa CerMat) has been launched by the Indonesian Ministry of Health, where its implementation involves all provincial Health Offices throughout Indonesia, the Indonesian Pharmacists Association, and academics [9].

Knowledge of drugs and their use in self-medication cases is vital for all levels of society, including children and adolescents aged 12-15 years who are in elementary and junior high schools [10]. It is known that at that age, there is a mental adjustment and the formation of attitudes, which are very vulnerable to inculcating values and information in the health sector, especially about drugs [11][12]. However, until now, education, which is closely related to increasing knowledge in the field of pharmacy in school-age children and adolescents [13] is still minimal [14].

The concept of Pharmaceutical Care has become a concept of pharmaceutical services in the community [15][16]. Pharmacists are involved in every process in pharmaceutical care, including assessing patient needs at the beginning of the primary process for identifying potential drug-related problems, examining all information obtained and determining results to solve drug-related problems, as well as assessing the results of therapy [17]. Thus, optimal therapeutic results can be obtained to improve the quality of life. DAGUSIBU (Dapatkan/Get, Gunakan/Use, Simpan/Store, BUang/Dispose) is a slogan pioneered by UNAIR Faculty of Pharmacy staff as an effort to educate the public so that they can obtain medicines properly. DAGUSIBU has been developed for several periods, and this effort has also become an activity of the Indonesian Pharmacists Association (IAI), which is echoed nationally. This activity has been importantly carried out to deal with the prevalence of counterfeit drug cases, as well as the risk of obtaining inappropriate drug information due to the public misunderstanding about drugs and their effects on health.

Education related to drugs and the role of pharmacists as drug experts is essential to give information to the public about self-medication. In this study, data or information related to self-medication was collected for adolescent students of SDN Keputih-245 Surabaya and SMPN 19 Surabaya. After that, counseling activities were carried out in the form of lectures and comics-story telling as an effort to introduce drugs, pharmacists, and self-medication to adolescent students so that they would have an awareness of self-medication and increase their understanding of the role of pharmacists in drug and self-medication services.

2. Method

2.1 Activities

The activities carried out were collecting questionnaires regarding a survey of students' basic knowledge about drugs and self-medication, counseling about drugs, self-medication, and mentoring students in the form of a DAGUSIBU simulation using the lecture method and comics-story telling.

2.2 Location

Sukolilo District is one of the sub-districts that have good access to education and technology services; where in this area there are several universities, such as the Sepuluh November Institute of Technology (ITS) Surabaya and Hang Tuah University Surabaya. In addition, this area also has close access to Universitas Airlangga.

This activity is carried out in collaboration with two partners, namely, SD Negeri Keputih-245, which is located in the Keputih village, and SMP Negeri 19 Surabaya, which is located in the Klampis-Ngasem Village. These two institutions are located on the edge of the highway and are classified as favorite schools

for the surrounding community, which is indicated by the relatively large number of students. At SDN Keputih 245 Surabaya, there were about 65 students in the 6th grade, and about 75 students in the 9th grade of SMPN 19 Surabaya attended this activity. Previously, there had never been a similar activity held in these two institutions.

With a large number of students, the existence of a strategic location, and the socio-economic background of school residents belonging to the upper middle class, this activity has the potential to have a significant impact on society, especially on adolescents.

2.3 Questionnaire Filling Activities

The questionnaire is structured in the form of multiple-choice questions. The students filled out the questionnaire with the instructions given by the guide/presenter. Each question item is read out, and participants are given time to fill it in. In addition, participants were divided into several groups accompanied by group facilitators, namely student volunteers who helped carry out the activities.

Then, the lecture activities were performed. The lecture materials include Drugs, Drug Advertisements, Self-Medication, and the Important Role of Pharmacists, as well as DAGUSIBU materials delivered using an LCD projector. In addition, information media was also used, i.e., the DAGUSIBU comic.

2.4 Counseling Activities

In general, the implementation of this study was carried out with a scheme of activities, as shown in Figure 1. The activities were carried out in several stages with different implementation times, where the stages included pre-activity, implementation of activities, and evaluation of activities.

In the pre-activity stage, a survey was conducted regarding prospective respondents and the location of the activity. At this stage, an analysis of the location related to the analysis of access to information is carried out, which will significantly affect the level of student knowledge. SD Negeri Keputih-245 and SMP Negeri 19 Surabaya are in strategic locations that are suitable for the target respondents of 6th and 9th-grade students.

The next stage is the implementation of activities which include two main activities, namely:

- a. Outreach activities regarding drugs and their uses in improving health. Extension activities are carried out using the lecture method or classical presentation.
- b. Simulation activity with DAGUSIBU contained material, i.e., comics. In this activity, in addition to using the lecture method, participants' understanding of medicine will be improved using comics (story-telling) and the DAGUSIBU dance exercise.



Fig. 1. The stages of implementing community service activities.

To evaluate the level of success of the activity program, an analysis of the understanding of the material was carried out by participants using a pre-and post-test model. The pre-test was given before the material was delivered, and after the activity, a post-test was conducted. The results of the pre-and post-test were then analyzed quantitatively.

3. Result and Discussion

3.1 Implementation of Counseling Activities

Counseling activities were carried out for students, covering topics about medicine and DAGUSIBU. The topics related to drugs and drug advertisements are provided, including understanding what drugs are and things to know about drugs related to their indications, uses, and benefits, as well as the toxicities or harms that can occur if misused. In addition, the topic of drug and self-medication advertisements was also given with an emphasis that self-medication behavior by children should be avoided due to a lack of knowledge about drugs and the risks to health that are very life-threatening. The advice from parents and teachers is critical, and this is also conveyed to the participants of the activity, who are elementary and junior high school students.

In addition, the material on DAGUSIBU was also presented on how to obtain, store, use, and dispose of drugs. The material for DAGUSIBU is given with an outreach method using comics. In addition, for activities carried out in elementary school, students were also invited to do DAGUSIBU dance, with the hope that through the physical activity, they could better understand the material presented, as shown in Figure 2.



Fig. 2. Documentation of the implementation of community service activities, in the session of giving lecture presentation and DAGUSIBU dance, which was carried out at SMPN 19 Surabaya (upper) and SDN Keputih 245 Surabaya (lower).

At the end session of the activity, the committee gave gifts to the students as well as souvenirs to the school, including the DAGUSIBU comic, so that later it could be used by the school and also understood further by the students (Figure 3).



Fig. 3. Documentation of giving gifts at the end of the session of the community service activities carried out at SDN Keputih 245 Surabaya (upper) and SMPN 19 Surabaya (lower)

After the activity was completed, an evaluation of the success of the implementation of the program was carried out. The value of the correct answers given by participants was evaluated before and after the activity, namely pre-and post-test. As shown in Figure 4, in general, the pre-test for elementary school

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students gave better results than the post-test, except for questions related to pharmacological classification and drug logos. This result indicates that the delivery method is still proven to be less effective in increasing elementary school students' understanding of drugs, self-medication, and DAGUSIBU. However, on the other hand, new knowledge related to drugs, namely drug logos and pharmacological classification, was proven to be able to provide interest for elementary school students to want to learn about drugs, which was proven to increase post-test scores.

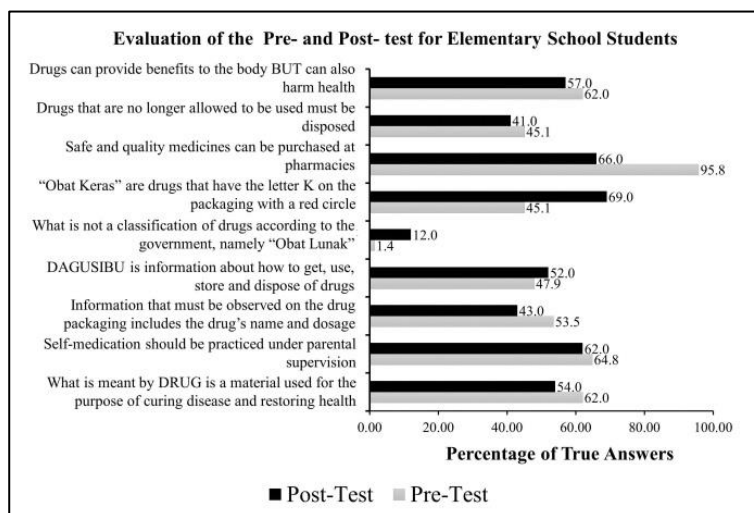


Fig. 4. The results of pre-and post-test evaluations on the implementation of community service activities carried out at SDN Keputih 245 Surabaya

On the other hand, the implementation of activities at SMPN 19 can be held successfully. This result can be seen in the results of the pre-and post-test evaluations, in which there was an increase in the scores of the participants, as shown in Figure 5. This result indicates that the delivery method was appropriate so that the lecture material could be well understood by each student.

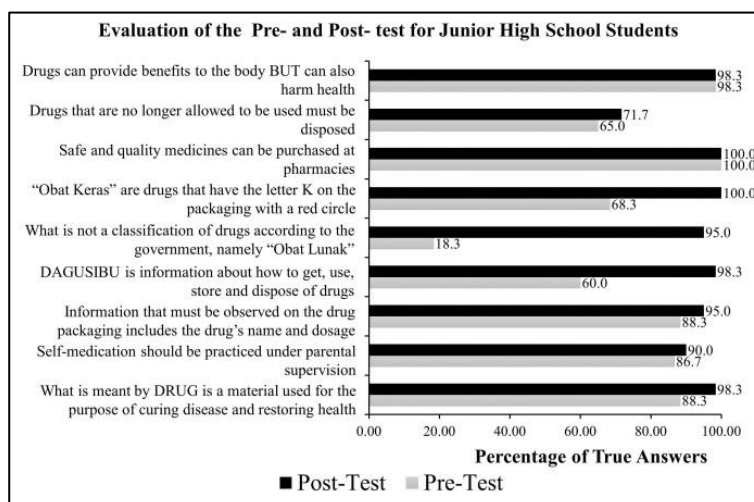


Fig. 5. The results of pre-and post-test evaluations on the implementation of community service activities carried out at SMPN 19 Surabaya.

From these results, it can be seen that the delivery method related to drugs and DAGUSIBU is still not appropriate for elementary school students, but it fits junior high school students. Thus, it is still necessary to improve the delivery method for elementary students. From the results of the evaluation of the implementation of this activity, the materials for drugs, self-medication, and DAGUSIBU are still familiar to elementary and junior high school students. However, these topics are urgently required. The students lack knowledge about drugs, their uses, and the harms of their use. Moreover, elementary and junior high school students are still not yet mature and are not fit to decide for themselves regarding self-medication, so the guidance of teachers and parents is still needed. In the future, it is necessary to conduct counseling for parents and school teachers.

4. Conclusion

The community service activities about drugs, self-medication, and DAGUSIBU provided knowledge for elementary and junior high school students in Sukolilo District, Surabaya. The school-age children still do not have adequate supplies and knowledge regarding medicine, self-medication, and DAGUSIBU. In addition, the counseling activities provided were not optimal in increasing the knowledge of elementary school students, although they were successfully implemented for junior high school students. The selection of the proper delivery method greatly affects the success of the program.

Furthermore, it needs to hold a similar program for parents as the primary source of self-medication behavior in school students so that it is expected to prevent the inappropriate use of drugs and drug abuse.

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